

WHAT IS CLAIMED IS:

1. An automatic frequency control system comprising:  
controlled oscillation means;

frequency converting means for generating a local  
5 oscillation frequency on the basis of a oscillation frequency  
of said controlled oscillation means and converting a reception  
signal including a reception reference frequency information  
into a base band signal on the basis of said local oscillation  
frequency;

10 automatic frequency control means for generating a  
frequency error information of said controlled oscillation means  
on the basis of said reception reference frequency information  
contained in said base band signal and controlling said  
controlled oscillation means by generating a control signal  
15 depending upon said frequency error information; and

control means for performing control of an automatic  
frequency control operation by said automatic frequency control  
means using said control signal upon preceding automatic  
frequency control locked state responsive to interruption of  
20 communication.

2. The automatic frequency control system as set forth in  
claim 1, wherein said automatic frequency control means  
generates a state information indicative of automatic frequency  
25 control locked state/unlocked state, when said state information  
indicates automatic frequency control unlocked state, a signal  
indicative of automatic frequency control unlocked state is

fed to said control means, and when said state information indicates automatic frequency control locked state, a signal indicative of automatic frequency locked state and the control signal thereat are fed to said control means.

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3. The automatic frequency control system as set forth in claim 1, wherein when said state information indicates automatic frequency control unlocked state upon interruption of communication, said control means feeds the control signal upon  
10 preceding automatic frequency control locked state to said automatic frequency control means.

4. A mobile communication device employing an automatic frequency control system as set forth in claim 1.

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5. The mobile communication device as set forth in claim 4, wherein said reception reference frequency information is information indicative of a reference frequency of a base station.

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6. An operation control method for an automatic frequency control system including:

controlled oscillation means;

frequency converting means for generating a local  
25 oscillation frequency on the basis of a oscillation frequency of said controlled oscillation means and converting a reception signal including a reception reference frequency information

into a base band signal on the basis of said local oscillation frequency;

automatic frequency control means for generating a frequency error information of said controlled oscillation means on the basis of said reception reference frequency information contained in said base band signal and controlling said controlled oscillation means by generating a control signal depending upon said frequency error information, the operation control method comprising the step of:

control step activated in response to interruption of communication, of performing control of an automatic frequency control operation by said automatic frequency control means using said control signal upon preceding automatic frequency control locked state.

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7. The operation control method as set forth in claim 6, which further comprises a step of generating a state information indicative of automatic frequency control locked state/unlocked state in said automatic frequency control means, when said state information indicates automatic frequency control unlocked state, a signal indicative of automatic frequency control unlocked state is generated, and when said state information indicates automatic frequency control locked state, a signal indicative of automatic frequency locked state and the control signal thereat are generated, and

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said control step includes a step of feeding the control signal upon preceding automatic frequency control locked state

to said automatic frequency control means when said state information indicates automatic frequency control unlocked state upon interruption of communication.

- 5 8. A storage medium storing a program for making a computer to execute an operation control for an automatic frequency control system including:

controlled oscillation means;

frequency converting means for generating a local  
10 oscillation frequency on the basis of a oscillation frequency of said controlled oscillation means and converting a reception signal including a reception reference frequency information into a base band signal on the basis of said local oscillation frequency;

15 automatic frequency control means for generating a frequency error information of said controlled oscillation means on the basis of said reception reference frequency information contained in said base band signal and controlling said controlled oscillation means by generating a control signal  
20 depending upon said frequency error information, said program comprising the step of:

control step activated in response to interruption of communication, of performing control of an automatic frequency control operation by said automatic frequency control means  
25 using said control signal upon preceding automatic frequency control locked state.

9. The storage medium as set forth in claim 6, wherein said program further comprises a step of generating a state information indicative of automatic frequency control locked state/unlocked state in said automatic frequency control means,  
5 when said state information indicates automatic frequency control unlocked state, a signal indicative of automatic frequency control unlocked state is generated, and when said state information indicates automatic frequency control locked state, a signal indicative of automatic frequency locked state  
10 and the control signal thereat are generated, and  
said control step includes a step of feeding the control signal upon preceding automatic frequency control locked state to said automatic frequency control means when said state information indicates automatic frequency control unlocked  
15 state upon interruption of communication.